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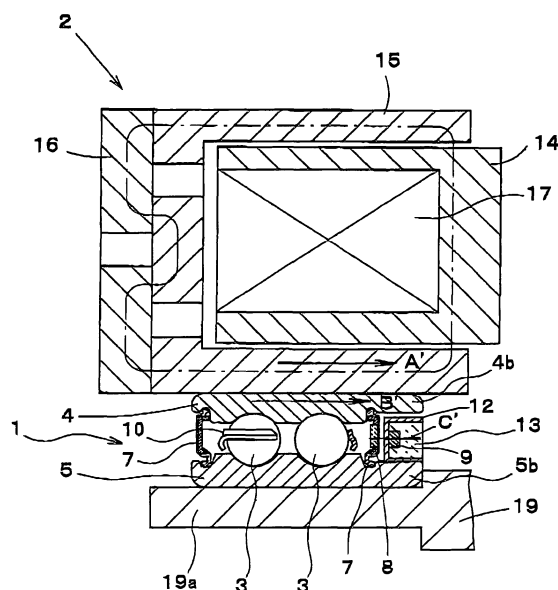
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(54) **Combined sensor and bearing assembly**

(57) A combined sensor and bearing assembly (1) is of a type having a capability of detecting a point of origin and includes a rolling bearing unit (6) and a rotation sensor unit (31). The rolling bearing unit (6) is made up of a rotatable raceway member (4), a stationary raceway member (5) and at least one row of rolling elements (3). The rotation sensor unit (31) includes a to-be-detected member (8) having a magnet and fitted to one of the raceway members (4, 5), and a magnetic detecting member (9) fitted to the other raceway member (4, 5) at a location confronting the to-be-detected member (8). This combined sensor and bearing assembly (1) is used at a location close to an electromagnetic coil (17) emanating a leakage magnetic field, in a condition in which a direction of flow of an electric current through the electromagnetic coil (17) is fixed in one direction so that a direction of a magnetic flux, with which the magnetic detecting member (9) is switched off, may coincide with a direction of the leakage magnetic flux.

Fig. 5





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EUROPEAN SEARCH REPORT

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EP 05 00 4906

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| | | | G01P G01D F16D |
| The present search report has been drawn up for all claims | | | |
| Place of search | | Date of completion of the search | Examiner |
| The Hague | | 16 June 2005 | Pflugfelder, G |
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| X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document | | | |

2
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European Patent
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Application Number
EP 05 00 4906

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1,8



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**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1,8

Compensation of the influence, a magnetic field leaking from an external coil exercises on a rotation sensor by the appropriately choosing the direction of the current through the coil

2. claims: 2-7,9

Compensation of the influence, a magnetic field leaking from an external coil exercises on a rotation sensor by by-passing the sensor using a flux guide

3. claim: 10

Compensation of the influence, a magnetic field leaking from an external coil exercises on a rotation sensor by other means

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 05 00 4906

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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16-06-2005

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